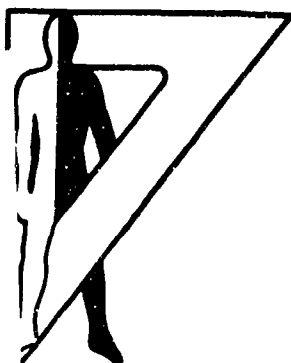


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THE BATTLE OF TYRE

R. D. McLaurin

Abbott Associates, Inc.
P.O. Box 2124
Springfield, VA 22152-0124

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<p>→ This report is a study of urban combat in and around the city of Tyre during the 1982 Israeli campaign to eradicate the Palestine Liberation Organization in Lebanon. The report includes discussions of operations, weapons, tactics, command and control, and psychological operations employed by both sides. This report furthermore examines the complex political atmosphere that shaped military operations. Along with its companion studies (The Battle of Sidon and The Battle of Beirut, 1982), The Battle of Tyre provides insight into the issue of urban combat in a highly politicized, limited warfare operation. → The effectiveness in which Israeli forces surprised, isolated, and rapidly eliminated PLO forces in Tyre (and Sidon) contrasts sharply with difficulties later encountered in the siege of Beirut. ←</p>					
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R. D. McLaurin

Abbott Associates, Inc.
P.O. Box 2124
Springfield, VA 22152-0124

August 1987

APPROVED: 

JOHN D. WEISZ

Director

Human Engineering Laboratory

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PREFACE

This report is based primarily upon data collected through interviews with participants in or observers of the fighting in Tyre--interviews conducted on the basis of a standard instrument or questionnaire. The data collection instrument used for the interviews was modified only slightly from instruments developed in previous work on military operations on urban terrain (MOUT). Data collected through questionnaire-based interviews was supplemented by written analyses prepared in newspapers, books, and journals in English, French, Arabic, and Hebrew.

This report is not intended to be a definitive description or after-action report about the battle in Tyre. Rather, the purpose is to give something of the reactions and perceptions of participants concerning combat in urban areas. As previous reports have demonstrated, such an approach frequently offers valuable tactical and doctrinal insights, but suffers from what might be called combat myopia. Participants have a limited view, and those actually engaged in the fighting (as opposed to more senior commanders) almost never see the "bigger picture" of the battle. Moreover, observations, inferences, and conclusions are often contradictory, since different participants occupy varying positions but also since the confusion of battle frequently produces strong impressions and weak logic.

The present report sets forth some background information on the fighting in and around Tyre. This information, adduced in Chapters I through IV of the report, is provided as context into which the substance of the report, based on participant perceptions, must be understood.

ABBREVIATIONS

AAA	antiaircraft
APC	armored personnel carrier
AT	antitank
C ³	command, control, and communications
C ³ I	command, control, communications, and intelligence
HEAT	high-explosive, antitank
HQ	headquarters
IAF	Israeli Air Force
IDF	Israeli Defense Force
INF	Israeli Naval Force
Katyusha	Soviet MRL (Russian slang)
km	kilometer (s)
LAF	Lebanese Armed Forces
LOC	line of communication
m	meter (s)
medevac	medical evacuation
mm	millimeter (s)
MOUT	military operations on urbanized terrain
MRL	multiple rocket launcher
NCO	noncommissioned officer
PLA	Palestine Liberation Army
PLO	Palestine Liberation Organization
PSYOP	psychological operations on urbanized terrain
RPG	Soviet shoulder-fired AT rocket launcher (Russian acronym)
SP	self-propelled
UN	United Nations
UNIFIL	United Nations Interim Force in Lebanon

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EXECUTIVE SUMMARY

BACKGROUND

The significance of the Battle of Tyre reflected several factors: (1) Tyre's symbolic importance as the southernmost Palestine Liberation Organization (PLO) stronghold and the first major Lebanese city north of the border with Israel; (2) the location of Tyre beside the road to Beirut and PLO headquarters and camps there; (3) the deployment in and around Tyre of large PLO units; (4) the perception of Tyre as a large (city population 40,000; area population 75,000, including several Palestinian refugee camps) Muslim Lebanese and Palestinian city inhospitable to Israeli capture, which therefore offered important symbolic advantages to Israel if indeed it were captured; and (5) the presence of large Palestinian refugee camps just outside the city, and of numbers of Palestinians inside it, triumph over whom might demoralize any resisting Palestinians on the march northward. The widespread Palestinian perception that the Israeli army was afraid to take casualties and therefore was afraid to enter cities was something of a magnet: rapid capture or neutralization was seen as a major possible vehicle to demoralize the Beirut PLO and to compel it to accept the inevitability of an Israeli victory.

WEAPONS

Antiaircraft artillery, armor, and self-propelled artillery (SFA) were invaluable in built-up areas. While the infantry bore the brunt of the responsibility, armor and SPA working closely with infantry were the best team for destruction of fortified strongpoints on urban terrain. The shock value of armor and SPA was reduced in Tyre because residents had been exposed to heavy artillery and aerial bombardment before the war. Contrary to IDF practice in Sidon and Beirut, APCs participated directly with tanks rather than behind battle lines, reflecting Israeli perceptions that Tyre was not a large city. Both tanks and APCs encountered difficulties in the camps where what was a largely mobile battle became notably less mobile.

TRAINING

Combined arms was the key to effective operations on urban terrain. The Israeli integration of engineer, medical, and other support elements, as well as of air, land, and naval branches, and of infantry, armor, and artillery was a signal feature of the attack. Recognizing Israel's inability to accept casualties, the attack was a considerable tactical success. The areas that most impeded converting military successes to political successes were those in which training was deficient--notably, civil affairs. Most personnel in administrative

military successes to political successes were those in which training was deficient--notably, civil affairs. Most personnel in administrative positions had experience in military administration, but could not meet wartime civilian needs.

TACTICS

Israeli operations around Tyre were tactically effective. The Israeli combined arms team cannot be readily applied to American forces at present for organizational reasons, but Israeli doctrine for armor and artillery employment in cities should be reviewed. Clearly, they can do things that infantry can accomplish only at a much higher risk. IDF analysts after the war concluded that the IDF required more trained snipers in "infantry" platoons.

C³I

Israeli forces had little problems communicating in cities. The Israeli communications system allows relatively senior commanders to enter into direct contact with local personnel, and this system too seems not to have been disrupted by urban operations. Indeed, the most marked communications failure of the Tyre battle was caused by a defective communications system in an APC.

PSYCHOLOGICAL OPERATIONS AND CIVIL AFFAIRS

Persuading civilians to move away from the combat area was generally successful in Tyre. Messages were well-written in the proper language and were quite understandable to the local inhabitants. Israeli writers took a very hostile tone in messages to the PLO and to noncombatants. The use of religious leaders to increase surrenders in the camps was wise and effective.

Inadequate training, authority, personnel, resources, planning, coordination, and support all plagued the civil affairs effort. The episode points up the importance of civil planning for urban environments in the Third World.

THE BATTLE OF TYRE

I

INTRODUCTION

BACKGROUND

At 1100 hours on June 6, 1982, the Israeli Defense Forces (IDF) invaded Lebanon. The incident that led to the Israeli attack was the attempted assassination of Israel's ambassador in London. The abortive assassination attempt was mounted by an anti-Israeli terrorist group. Ironically (ironically, because the group was probably more hostile to the main branch of the Palestine Liberation Organization (PLO) than it was even to Israel, and in fact had launched more attacks on PLO leaders than on Israelis), Israeli leaders chose to use the attempted assassination as a justification for the long-planned invasion. On several occasions prior to the assault on the ambassador, the IDF had been on the verge of attack, only to be restrained by diplomatic or other pressures. Yet, while the Israeli invasion was to be carried out against Lebanese territory, it was not aimed at the Lebanese.

Southern Lebanon had at one time been Israel's only peaceful border. The Lebanese Army never threatened Israel, and in fact Lebanon long stood for what many Israelis hoped to achieve, at least in the short run, in the Middle East--a de facto modus vivendi going beyond merely the absence of hostilities. The Lebanese Jewish community flourished, and Israelis often traveled to Lebanon. Notwithstanding this relationship, the seeds for its destruction were sown soon after the 1948 war in Palestine.

Immediately after the war, the armies of Syria, Israel, Egypt, Jordan, and Iraq began to grow. Over the years, the pace of that growth accelerated. But Lebanon never participated in this competitive armed forces growth syndrome, and its army was essentially oriented toward internal security. Neglect of the Lebanese Armed Forces (LAF) was often seen in Israel as security on the northern border since the LAF posed no serious military threat. Indeed, the LAF was lauded in many places in the West as an outstanding example of the economic benefits of avoiding "wasting" money on a foolish arms race. The Lebanese, for their part, believed, "our weakness is our strength." That is, they felt since they clearly posed a threat to no one, no one would bother them.

As a result of the 1948 war, hundreds of thousands of Palestinian refugees crossed into Lebanon where they and their descendants have been since. A further influx arrived after the war of 1967 and another after internal conflict in Jordan in 1970-1971. The first influx of Palestinian refugees presented monumental political problems to

Lebanon's fragile sectarian balance. The country's political offices were distributed along religious lines. The cabinet, for example, was divided 50-50 between Christians and Muslims and the Parliament and civil service appointments were split on a 6-5 basis. The overwhelmingly Muslim Palestinian refugees, however, threatened this balance. (Many Christian Palestinians also took refuge in Lebanon, but about 100,000 of them sought and were granted citizenship.) Yet, the problems resulting from the first wave of refugees paled into insignificance by contrast with those arising from the second and third waves.

After 1967, the rising Palestinian consciousness and militancy were visible among the refugees. Supported by various Arab states, especially Syria, a number of "liberation movements" began to develop, the most important of which, Fatah, led by Yasser Arafat, had been established in the years prior to the 1967 war. Lebanon exercised maximum vigilance lest the activities of these groups force the small and virtually unarmed country into a posture of confrontation with Israel it could ill afford. There were a few raids, but the Lebanese Army caught and severely punished the perpetrators when possible.

Beginning in 1968 and 1969, the Palestinian movement began a much more concentrated development of its resources in Lebanon. Gun smuggling was no novelty in the country, and virtually every Lebanese household had always had firearms. It was known that arms existed in the Palestinian camps, such as Rashidiyya near Tyre, but they were small arms for the most part and posed no threat either to Israel or to public order in Lebanon. Throughout the 1950s and until 1969, the Palestinian refugee camps remained under the careful scrutiny of the very competent Lebanese military intelligence apparatus, generally referred to as the deuxième bureau or G-2. G-2 did not hesitate to apprehend any Palestinians suspected of conspiring to engage in any illegal activities, and indeed abuses of G-2 authority in the camps were frequent and to a certain extent encouraged.

The presence of militant, autonomous Muslim Palestinians threatened to destabilize the delicate Lebanese political structure. This problem facing Lebanese authorities did not, however, arise in the camps. Rather, it derived from the infiltration from Syria, with the Syrian government's support, of armed Palestinian fighters into relatively unpopulated areas near the border with Israel. Initially, these guerrillas might launch raids; followed by periods in which they pledged not to do so or were suppressed or driven out by the Lebanese Army. However, three developments spurred the growth and autonomy of Palestinian forces in southern Lebanon. The first development was the 1967 war and its aftermath that had a devastating psychological impact in the Arab world. A sense of powerlessness and frustration seized virtually all Arabs. It was against this background that the Palestinian guerrillas captured the public imagination by carrying out small, futile, by seemingly heroic and often literally suicidal raids in Israel. Consequently, any government seen acting against these public heroes courted instant public disapprobation. While Syria and Egypt exercised very careful, and at times brutal, control over the guerrillas, the government extolled the movement and tried to outdo each

other in rhetorical support for the guerrillas, a hypocrisy that the more open and liberal states like Jordan and Lebanon had neither the opportunity nor inclination to match. As the Lebanese border heated up under the pressure of raids, this problem manifested itself in sectarian terms. Most of the South of Lebanon is predominantly Muslim, as were the guerrillas. When Israel responded to the raids by launching punitive air or ground operations, the Lebanese Muslim community increasingly blamed the Christian-dominated security establishment for failing to protect Lebanese Muslims and for its lack of support for the Arab cause. The second development, spurring the growth of Palestinian forces, was the involvement of outside powers, notably Syria. The Palestinians, and their Arab government supporters, quickly understood the process of fragmentation that was underway and just as quickly to exacerbate it. They felt that in this manner they could force Lebanon to take a more active role in the struggle against Israel, if only reducing government control of the Palestinian fighters. Syria had long provided intelligence, arms, logistical support, training and other assistance to the Palestinian guerrillas. However, in 1969, when the Lebanese government was forced to take military action against the PLO, the Syrians intervened militarily inside Lebanon. Predictably, no one came to Lebanon's aid, and indeed the government effort to control the Palestinians was condemned by most of the Arab world, many of whose governments cut off trade links with Lebanon. In no way could the diminutive Lebanon state meet this complex of challenges, especially in view of the sectarian divisions now appearing in the body politic which threatened the very essence of the Lebanese pluralist system. The third development was the Jordanian civil war of 1970-1971, which originated from problems similar to those Lebanon had begun to face with the Palestinians, brought large numbers of heavily armed and well-organized Palestinian fighters into Lebanon (again via Syria).

Had the Lebanese had a strong army, or at least a much stronger army than they had, it is altogether possible they could have acted quickly and decisively enough at an early stage to prevent the widening of internal cleavages resulting from confrontations with the Palestinians and their external supporters. Even before the Jordanian war influx, however, Lebanon's Palestinian problems exceeded the ability of the state to contain them. In the 1969 fighting, Lebanon had had to reach a compromise with the PLO that was a barely disguised victory for the latter, ensuring a certain level of PLO cross-border activity that could only increase Israeli pressure against Lebanon. This Israeli pressure in turn augmented the sectarian fissures, since it typically involved raids on southern Lebanon in areas generally inhabited by Muslim Lebanese. As these retaliatory raids became more frequent, thousands of poor Shi'a farmers were driven from their farms, and moved as refugees into squalid quarters near Beirut, creating an explosive social and political situation. This further constrained the ability of the government to act against the Palestinians who now presented themselves as the armed guardians of the Muslim Lebanese community providing protection against the Israelis and any excesses of the Christian-dominated army. (Ironically, the government was making intense efforts at this time to recruit and promote senior Muslim officers in the army.)

By the mid- to late 1970s, the Palestinians controlled large tracts of Lebanese territory, and not only in the South. They also controlled most of the narrow coastal plain from the South up to the southern outskirts of Beirut. However, strains were developing between the Shi'as of the South, who bore the brunt of Israeli retaliation, and the Palestinians. Moreover, PLO rule in the South was far from beneficent, particularly regarding to the Shi'as, a generally poor sect that was underrepresented in government and society. Tyre was historically a predominantly Shi'a city, the only one of Lebanon's four large coastal cities in which Shi'as were recognized as the majority. However, many had been forced to leave as it came under substantial and frequent Israeli naval and air fire in the 1980s. Indeed, it had been significantly depopulated by the time of the invasion of 1982, and was largely under PLO control. Refugees from the city were the Lebanese Shi'as who moved to Beirut, while by contrast Palestinians, subject to Israeli attacks wherever they lived together, moved into the city and may well have constituted a majority of its inhabitants, depending upon how lines were drawn to delineate the metropolitan area. Counting the camps, there were probably something on the order of 40,000 Palestinians in the Tyre area in 1982.

In 1978, Israel carried out a limited military operation in southern Lebanon, but did not enter the major cities of Tyre and Sidon. The operation was not particularly successful because most of the Palestinian fighters simply retreated northward or moved into the cities. Israel captured some equipment, but few PLO fighters. Nevertheless, it was this model that many Palestinians applied in thinking about the next war. While it was a model for some Israelis as well, it was a model of what to avoid for others.

The process of arming the PLO in southern Lebanon continued, even following a cease-fire in 1981. In fact, the PLO had arms caches far in excess of anything it could ever use for any conceivable purpose. It was specifically the long-range artillery and Katyusha rockets that concerned the Israelis, because these weapons could wreck havoc in the upper Galilee. Indeed, something of an internal migration from the Galilee had already begun, a process some Israelis believed had far-reaching implications.

It was with this situation in the background that the Israeli Defense Forces (IDF) began to plan how they might remove the PLO threat from southern Lebanon. Essentially, there were two alternative plans. One called for a limited engagement along the lines of the 1978 operation. The other, however, envisaged removing the armed Palestinian threat from all of Lebanon. While the former enjoyed the support of the Israeli cabinet and the public as well, some believed it simply would not solve the problem any more than the 1978 operation had. Advocates of the second approach--principally Minister of Defense Ariel Sharon and IDF Chief of Staff Rafael Eytan--could point logically to the necessity of resolving the question of the Palestinian fighters in Lebanon for once and for all. However, they lacked public and cabinet support for the larger war (see Schiff & Ya'ari, 1984).

The result of the schism in Israel was a war that was nominally fought for limited ends not dissimilar from those of 1978, but was in fact a deception of both the Israeli public and of others, like the United States government. Sharon from the outset had in mind the larger plan and intended to carry it out. But, lacking public or cabinet support, he had to carry it out in stages and by creating pretexts for continued forward movement. This approach was to prove disastrous for Israeli forces and Israeli policy in the overall conflict.

In the southern cities of Sidon and Tyre, however, the problem of disarray in Israeli policy proved largely peripheral to the military operations and their consequences, at least for the duration of the war itself. Following the assassination attempt in London, Israel bombed PLO positions in and around Beirut. This retaliation was intended to provoke a PLO response, because IDF intelligence was fully aware that the PLO leadership had been put on notice by militant elements of the organization that any further Israeli actions must be answered. (The IDF had in fact tried to incite PLO actions violative of the cease-fire for months, but had only limited successes, none of which could justify large-scale military action.) The PLO did respond this time, its artillery and rockets hitting the Galilee heavily. The justification for military operations now in hand, the IDF proceeded with the invasion, code named Operation Peace for Galilee. (For map of the campaign see Appendix A.)

SIGNIFICANCE

Tyre was a major southern PLO outpost. Despite the fact that the city has always been predominantly Shi'a, the Israeli attacks on Tyre in the late 1970s and 1980s increased its symbolic value thereby increasing the power of the PLO within the city. Tyre is also one of Lebanon's major cities, though nowhere near as large as the other three major coastal urban centers to the north--Sidon, Beirut, and Tripoli. Perhaps more important yet, Tyre lies beside the coastal road that runs from the Israeli border to Beirut. The PLO had their headquarters in the Fakahani district of the southern suburbs of Beirut, and spread among key locations in some of the refugee camps south of the city. The only direct and expeditious ground route to Beirut was the coastal road, and the Palestinian camps and units along it had to be neutralized in either the limited or the larger war scenarios.

The significance of Tyre was due to several factors: (1) Tyre's symbolic importance as the southernmost PLO stronghold and, at least as important, first major Lebanese city north of the Israeli border; (2) the location of Tyre beside the road to Beirut, PLO headquarters, and Palestinian camps; (3) the deployment in and around Tyre of what were believed to be large PLO units. The defeat of large Palestinian Forces in the city and surrounding camps might demoralize further Palestinian resistance on the march northward. In the cases of both Sidon (McLaurin, 1986) and Tyre, the widespread Palestinian perception was that the IDF was afraid to accept the casualties presumably inherent to city combat and would avoid the cities. Rapid capture or neutralization

of these cities was therefore seen by the Israelis as a potential means to demoralize the Beirut PLO and to compel it to accept the inevitability of an Israeli victory.

DESCRIPTION OF THE CITY

Tyre is a city of antiquity. For many years it was the most important Phoenician city-state. Like Sidon and some other Phoenician cities, it is built on a promontory and looks outward toward the Mediterranean, even as the Phoenicians themselves did. The population of Tyre proper was about 40,000 in 1982, though it may have been less due to migrations over the previous 5 years of violence. The Tyre area had a population of about 75,000, which included the large Palestinian refugee camps of al-Bass (population 5,000), Rashidiyya (15,000), Burj ash-Shemali (11,000), and three smaller camps. Of the three big ones, al-Bass virtually adjoins Tyre, since parts of the camp lie west of the main coastal highway going to Beirut.

The majority of the residents of Tyre have historically been Lebanese Shi'as. That is, they belong to the Shi'a (Shi'ite) sect of Islam. Tyre has been inhabited by Shi'as for centuries, and indeed at one time Shi'as predominated in most of Lebanon. (Ironically, this minority in the Arab world was not driven to migrate to Lebanon for protection, as so many others were, but rather was driven back within Lebanon.) Shi'as are generally lumped together with Sunnis (the largest branch of Islam, and hence called "orthodox") as the two principal elements of the "Muslim" community. The rivalry between Sunni and Shi'a, however, is often far greater than between Christian and Muslim. The Palestinians in Lebanon, most of whom were Sunni, and who came from a much more urban and modern background in Palestine, were initially welcomed by the Shi'as as by all other Lebanese. By the 1980s, however, Palestinians were detested by the Shi'as for having brought such destruction in their wake, as well as for the poor treatment and frequently arrogant behavior Shi'as suffered at their hands.

The complex relationship between Shi'a and Palestinian was understood to a certain extent by Israeli intelligence establishments. Some urged forcefully that contacts with the clandestine Shi'a leadership elements should be enlarged. The demographics in Lebanon had made the Shi'as the largest single religious group in the country by 1982, and it was felt that it was merely a matter of time until this demographic reality was translated into a political reality. Some Israelis felt strongly that close, cooperative contacts between Israel and Lebanon's Shi'a community would pay handsome dividends in the future. Thus, Tyre, as the principal Shi'a city and the first major Lebanese city to be captured by Israel, represented an important beginning. Its residents should not be treated as defeated enemies, but as liberated friends; so thought many Israelis. It was to be a practice easier to describe than to implement.

II

THE SITUATION¹

THE COMBATANTS

The Israeli Defense Force

The attackers were the ground, naval, and air forces of the Israeli Defense Force (IDF). IDF ground forces involved in the fighting in Tyre consisted of three "battle groups" or "task forces" of unequal size with large reserves later committed to the fighting in built-up areas.

The battle group advancing directly northward along and parallel to the coastal route was spearheaded by the 211th Armored Brigade, commanded by Eli Geva. (The 211th is normally part of the 162nd Division, but was attached to the 91st Division, commanded by Col. Yitzhak Mordechai, for this operation.) The bulk of the battle group was composed of brigades of the 91st Division.

A small force staged an amphibious landing at Qasmiyya on the Litani River (north of Tyre), moving on the city from this unexpected direction.

A third battle group attacked Tyre from the east. The three groups together, with the reserves later committed to the fighting in the camps, consisted of more than 10,000 men and composed slightly over half of the major task force that was assigned to attack and control the coastal road from the Israeli-Lebanese border to Beirut.

The IDF is one of the most highly trained and competent military forces in the world. It is a cadre army in which the standing regular force can be rapidly expanded by the mobilization of reserve units. Reservists form the bulk of the IDF. They are well-trained in their reserve capacity and most have also previously served in the regular army. (With the exception of the 211th Armored Brigade, the majority of personnel comprising the three battle groups at Tyre were reservists.) The IDF is well-equipped with the most modern and sophisticated combat arms and equipment. Much of the heavy armaments are of U.S. origin, including F4 and F16 fighter-bombers, M48 and M60 tanks, and M113 armored personnel carriers, M109 SP howitzers, Vulcan AA guns, and Hawk surface-to-air missiles. The ever-expanding Israeli armaments industry also equips the IDF with such weapons as the Merkava tank, Kafir fighter-bomber, SOLTAM mortars, Galil assault rifle, and Uzi submachine

¹ Elements of this section borrow from a previous report (McLaurin, 1986).

gun. Israel also extensively modifies its foreign equipment. The remaining equipment in the IDF inventory is a mix of materiel from other western nations. In addition to possessing modern equipment, the IDF is extraordinarily well-trained, highly motivated, and very well led. Israeli armed forces personnel regularly train in live-fire situations and in large-unit operations. Coordinating the movement of a multidivisional task force operation such as was used in the Battle of Tyre and overall in the Lebanese campaign is well within the capabilities and experience of IDF leadership. The emphasis on individual initiative and responsibility that typifies the Israeli officer is seen to a degree probably unmatched in any other national military organization. This is particularly valuable in urban fighting where small units operate with substantial autonomy.

The IDF had trained in military operations on urbanized terrain (MOUT).² Training had begun prior to the 1973 war as doctrine was developed. Small exercises were carried out in Ismailia (a city in northeastern Egypt then under Israeli occupation) and Quneitra, a city on the eastern edge of the Golan Heights. After 1978, the IDF carried out exercises in southern Lebanese villages like Khiam. These exercises reflected that, for MOUT purposes, the IDF was well-equipped and that doctrine was relatively highly developed. IDF MOUT training involved the integrated training of infantry, armor, artillery, engineers, and medical elements, reflecting an acute awareness of the importance of combined arms operations. However, as a cadre army, the reserve elements of the IDF receive only limited annual training and had not had adequate MOUT training for this operation.

Task organization of forces is common in the IDF and is seen as a principal response to specific tactical problems. This was very much the case in Tyre. Cross-attachment of tanks and self-propelled artillery to infantry companies was common, and in such cases cross-attached armor and artillery generally remained under infantry command. Extensive combined arms training is the corollary of this organizational flexibility. Infantry, for example, routinely operates with tanks and is trained in artillery observation methods. Such tactical flexibility at lower command levels is characteristic of the IDF and reduces or eliminates complex coordination and unnecessary movement of forces involving higher echelons of command. The relative independence of junior officers also helps reduce overloading of communication nets in time of combat.

Small units such as companies operated relatively independently in the sectors at the front line. This too is characteristic of IDF

²Indeed, few armies have paid closer attention to MOUT experience than that of Israel (relative to the size of the standing military establishment). Israeli military operations in built-up areas included some of the costliest experiences in Israeli military history, whether victories or not, battles such as Jerusalem (1967), Suez City (1973), and the long siege of Jerusalem during the 1948-49 war.

operations where junior officers are expected to exercise discretion to adapt to the tactical circumstances without turning to superiors.

Force structure for the operation reflected task organization expected to be appropriate to the campaign (except that the IDF was necessarily burdened by the existing condition that its overall structure was armor-heavy).

Ground forces logistics support was altered for the campaign in Lebanon. Tanks and SP artillery carried food and water, as well as ammunition, although the infantry units to which they were attached also had the capability to supply them.

While most armies perceive urban combat as principally an infantry task, the IDF is not structured to so view it. The invasion force was designed for rapid breakthrough, and ground forces were organized into division-sized combined arms units stressing armor-infantry cooperation. Congruent with objectives and capabilities, mobile repair facilities and supply depots were established in forward areas to maintain momentum. The IDF made additional special preparations for fighting in cities. For example, additional grenades were carried by a specially designated soldier in each platoon and pressure-charge devices were also supplied. Infantry antitank (AT) weapons, mainly M72 LAW, were also provided in increased numbers. Loudspeakers for PSYOP were issued, along with sniping equipment and additional communication sets. Some proportion of explosive mortar shells were replaced by star-illuminating shells. Supplemental armor plating on the sides and front of many tanks was added.

Medical organization reflects evolving ideas within the IDF that differ sharply with American practice. In Israel, every physician in the country is trained by the medical corps of the IDF. All medical services are integrated into the medical corps elements, which are organic to every unit. During operations planning, the medical officer must provide the commander his own plan for handling casualties consistent with the commander's military plans. In each IDF platoon there are two "medical orderlies," actually infantrymen or paratroopers with combat training as NCO squad commanders but who have received 3 months' additional training in medical aid. They can perform triage and must know the location of the battalion physician at all times. Orderlies carry triangles, hartman infusions, morphine, personal dressings, tourniquets, a stretcher, and other medical aids, as well as their combat gear. The company level orderly is responsible for all orderlies within the company. One or two physicians are attached to each battalion. The battalion doctor maintains an independent station in the battalion communication network, and has his own emergency communications net. However, battalion doctors are also connected to a brigade doctor's network. Collecting stations at brigade level are subject to the supervision of assigned battalion physicians. Doctors are rotated among unit elements. Soldiers are trained to work with medevac helicopter pilots to facilitate extrication of wounded.

Lebanese medicine is highly developed. The Lebanese have always produced a disproportionate number of physicians and other health

professionals. Nevertheless, the IDF from the outset planned to avoid the use of local medical facilities for IDF personnel, instead, using these facilities for the indigenous population. Where IDF wounded required surgery, they were sent back to Israel or, when necessary, they were operated on in Israeli mobile surgical facilities.

The Palestine Liberation Organization

The Palestine Liberation Organization (PLO) is an umbrella institution symbolically important as the embodiment of Palestinian nationalism. Most Palestinians support the PLO as their representative or symbol, regardless of whether they acquiesce in PLO policies. As an umbrella organization, the PLO is composed of a number of component groups, some official, many unofficial. These groups are deeply divided by ideology, background, militancy, and other factors. Some elements are legitimately considered "PLO" in that they wear two hats--that of their group and that of the PLO. This is true, for example of the PLO leadership cadres around Yasser Arafat, most of whom were also members of Fatah. Ideally, group affiliation should be noted, but this is not generally possible, because commentators, including Palestinian commentators, often fail to distinguish among various groups.

The PLO operated on several levels. It organized the logistics of defense, such as it was, for civilians and combatants in Tyre. It was more effective in organizing the camps, because their inhabitants were all Palestinians, and by 1982 the authority of the PLO in the camps was unquestioned even by the Lebanese government. Thus, defensive arrangements, including sectoral responsibilities and divisions were established. In the city itself, PLO authority had to be shared with civil officials of the central and local governments. However, the PLO had gained the upper hand in its influence in recent years as a result of violence-induced population movements in Tyre.

There were approximately 40,000 Palestinian refugees located in and around Tyre before the war began. The overwhelming bulk of these refugees supported the PLO or one of its constituent organizations. Many of the refugees were located in the camps near the city--al-Bass, Burj ash-Shemali, Rashidiyya, Bani Maoshook, al-Hanina, and Shabrikha. Nevertheless, these Palestinians, though sympathetic to and strongly supportive of the defenders (i.e., the fighters), were mostly noncombatant, working-class civilians.

PLO fighters numbered somewhere between 1,500 and 1,800 in the Tyre area prior to the war. These fighters formed part of the Palestine Liberation Army (PLA) Kastel Brigade. (It should be noted that these include the more or less full-time fighters, those for whom the profession of arms was their vocation. Like the Lebanese militias, the Palestinians had both full-time fighters and part-time forces. While part-time personnel formed the bulk of most Lebanese militias' units, they were seen as a supplement to the PLA. Palestinian part-time fighters included irregulars who guarded the camps, a kind of home guard; and others who worked for the PLO in addition to regular employment or commitments elsewhere). However, the rapid Israeli

movement northward meant that at no time were all of these Palestinians available, since many began to retreat to the north very early.

PLO fighters received reasonably adequate individual training by regional standards. Training programs existed in Lebanon, but many personnel were also sent to foreign countries (Arab, Warsaw Pact, and leftist East Asian countries in particular) for various military courses on everything from demolitions to flying. PLO forces lacked sophisticated weapons and training above the squad level. While often fully capable of using and maintaining individual weapons, they frequently lacked any concept of the role of the weapon in the overall battle or of coordinating firing sectors. Indeed, their ability to coordinate higher level combat operations was quite limited. Moreover, loyalty was of greater value than leadership in officer promotion, so middle- and field-grade officers were of low quality, preferring safe settings and security to effectiveness. Many fled the South as quickly as possible. Among these was the senior PLO officer for the South and commander of the Kastel Brigade, Col. Haj Ismael, a close supporter of Yasser Arafat. The Kastel Brigade was less well-trained than units around Beirut. Politically, the units in the South were closely tied to Arafat's leadership; the Kastel Brigade was dominated by Fatah. (The refugee camps around Sidon and Tyre were for the most part heavily pro-Fatah in sentiment.)

In the 3 years prior to the outbreak of the war, the PLO exerted substantial efforts to develop higher level coordination. Command, control, and communications (C³) links were established more along the line of a regular army than in the past. Forces up to and including battalion size were deployed in the South regularly, although manning was a consistent problem. Unlike the PLO in Beirut, who had experience fighting the Lebanese Forces, the PLO in Tyre was not as oriented toward relatively sustained combat against local anti-Palestinian elements. There were problems with more manageable anti-Palestinian Shi'a forces, but these problems were more manageable than in Beirut, for two reasons: first, the Shi'a elements were not as well armed, organized, or led as the Lebanese Forces; second, they had no defensible territorial base from which they could launch attacks. The PLO in Tyre was limited by the operations of the United Nations Interim Force in Lebanon (UNIFIL) and the Israeli-supported Army of Free Lebanon--the Lebanese militia under Major Sa'ad Haddad of the Lebanese Army. Both these forces represented more of a threat to PLO cross-border operations than to actual Palestinian presence or control in Tyre and the camps.

PLO light arms included first and foremost the ubiquitous Soviet-made AK assault rifle, the Belgian FN, German G-3, 7.62 mm and 12.7 mm machine guns, and the also ubiquitous RPG-7.

The most sophisticated weapons at the disposal of the PLO were tanks (mainly T-34s, with some T-54/55s); a few dozen BRDM-2 scout cars and BTR-152 armored personnel carriers (APCs); and jury-rigged armored cars with machine guns. However, this makeshift inventory of weapons systems was generally irrelevant in Tyre, where relatively few "heavy weapons" were found. Systems available in or near Tyre included 122 mm rocket launchers (ground and truck-mounted); 73 mm (SPG-9, 15 mm, 82 mm

(B-10), 106 mm, and 107 mm (B-11) recoilless rifles; 57 mm and 85 mm AT guns; Sagger AT missiles; shoulder-fired SA-7 and vehicle-mounted SA-9 surface-to-air missiles (SAMs); a variety of both towed and truck-mounted antiaircraft artillery (AAA)--12.7 mm, 14.5 mm, 20 mm, 23 mm, 30 mm, 37 mm, 37 mm; and a growing artillery inventory (76 mm, 85 mm, 122 mm, 130 mm, 155 mm). Abundant ammunition was available in numerous caches in the South.

Other Forces

Other forces in the immediate vicinity included the United Nations Interim Force in Lebanon (UNIFIL); the pro-Israeli Army of Free Lebanon; and the Shi'a Amal militia. The UNIFIL had been deployed in the South since 1978 as a peacekeeping force. The Army of Free Lebanon was a militia of about 2,000 men commanded by a Lebanese Army major. Its members were both Christian and Shi'a, although the former included most of the officers. This organization was secretly financed by the Lebanese government, but was trained, equipped and partly financed by the IDF. The Amal political organization and its militia represented the Shi'a movement for greater participation in Lebanese affairs. Some of the IDF forces that entered Lebanon actually massed inside the country through UNIFIL lines without opposition; and Amal leaders instructed their men not to oppose the IDF either. (Some Amal Shi'as did fight with the PLO against the IDF in Burj ash-Shemali, but this was an aberration. Further north, in fact, Amal was of direct material assistance in ferreting out PLO fighters hidden in the Shi'a suburbs of Beirut.) For all serious intents and purposes, the only two combatants in the Tyre battle were the PLO and the IDF.

THE SITUATION

The Strategic Situation

While Israel is the dominant power of the Middle East, Israeli dependence on the United States for political, economic, and military assistance has precluded disregarding externally imposed cease-fires in past conflicts. One of the reasons Israeli military leaders placed a high priority on rapid achievement of campaign objectives was precisely to preempt this contingency. When President Reagan's personal envoy, Ambassador Philip Habib, was dispatched to Lebanon to effect a cease-fire, the IDF was eager to inform him that the fighting in the South (around Sidon and Tyre) was merely mopping up operations.

Another reason for rapid movement was to disorient and demoralize the opponent and to keep casualties down while achieving objectives that victory required. Moreover, since this approach assumed bypassing pockets of resistance, especially in the cities, rapid movement was also likely to persuade those pockets to surrender without further fighting, or so it was thought. The necessity to minimize casualties derived from

domestic sensitivities in Israel and proved to be a very important constraint in the Lebanese environment.

By contrast with Israel, the PLO's limited and rather fanciful forces could hardly be considered a "military" opponent. PLO attacks and PLO-supported terrorism posed considerable security problems but were not a threat to Israel's survival. Some observers (most of them more favorable to the Arabs than to Israel, but many Israelis as well) have speculated the war might be considered more a political than a military undertaking. By this they appear to refer to the fact that some Israeli leaders sought to destroy the PLO more as a political force than as a fighting force, which it never was. Such speculation may or may not be justified, but does not alter the military realities as they took place on the ground.

The Tactical Situation

The Battle of Tyre cannot nor should not be seen only in terms of victory or defeat in the conquest of Tyre. Of the military outcome in Tyre there could be no doubt. PLO forces were neither prepared nor could they have been prepared to prevent the conquest of Tyre or the camps near the city. The issue was not whether Israel would ultimately win. The issue from the Israeli point of view was the speed of the move through the Tyre area. Conversely, the issues from the Palestinian point of view were the degree to which that movement could be delayed and casualties could be inflicted on the IDF.

Because the built-up area of Tyre is only 25 kilometers from the boundary between Lebanon and Israel, the IDF was into the area almost without warning. Moreover, Tyre was surrounded and attacked from three sides. Given the limited forces available for defense, and the rather inexplicably poor state of planning for defensive operations, there was very little organized fighting prior to the arrival of the IDF at the outskirts of the built-up area.

The IDF had at its disposal an armored brigade attacking from the south; a battalion task force (less some elements) of mixed armor and infantry attacking from the north; and a battalion of mechanized infantry attacking from the east. The defender's forces were scattered and in a low state of readiness. The most coherent units were three significantly undermanned "battalions" deployed in and around Tyre. The Abu Youssef an-Najar Battalion was deployed in the city itself, northward to the Litani River, and elsewhere, the Middle Sector Battalion was positioned southeast of Tyre, and the Bayt al-Muqaddis Battalion was to the south and east. In all, the immediate attacking forces amounted to something on the order of 10,000 men--the defenders, a scattered and poorly equipped 2,000 men.

III

CONCEPTS OF OPERATIONS

ATTACKER

The key variable in the operations in the South was time. That Israeli forces would overcome the PLO resistance was never in doubt, not even in the most worst-case oriented planning conceivable. Yet, as Minister of Defense Sharon saw the battle, victory lay not in overcoming the PLO in the South nor even in destroying the organization's infrastructure in Lebanon, as he averred, but, rather, in creating the conditions that would force the PLO out of Lebanon altogether. These conditions could not be created in the South, which, while it was nominally "the front," was in many respects a sideshow. Rather, they could only be effected by the creation of a "new situation" in Beirut. Consequently, the IDF had to move very quickly northward to place PLO fighters around Beirut in an untenable position before they could harden their defenses in the city. Time was then of the essence.

The criticality of rapid movement to the overall campaign dictated the nature of Israeli operations in Tyre. IDF intelligence anticipated a coherent defense of Tyre by the Kastel Brigade, but no such defense materialized. There was no margin for a long, drawn-out battle, since such a battle would provide the PLO preparation time in Beirut. Instead, it was clear that IDF force must move through Tyre quickly and avoid anything--such as a prolonged city battle--that might slow their process of "rolling up" the countryside and advancing on Beirut. Furthermore, the Qusmiyye bridge over the Litani River north of Tyre was a critical early objective necessitating rapid movement throughout the city. For all intents and purposes, pockets of resistance were isolated and surrounded and bypassed by the spearhead of the force moving north. Indeed, the spearhead units moving toward Beirut took part in the early period of the battle, but then quickly passed through the outskirts of Tyre, so that by nightfall of that first day they were halfway to Sidon. For them, the Battle of Tyre was over, even though it had scarcely begun. However, the essential bypassing of the urban area, including the camps, meant that considerable resources had to be employed if the city and camps were to be subsequently reduced with a minimum of casualties. Although the main force had moved on, the Israeli forces left behind to eliminate pockets of resistance still significantly outnumbered the defenders.

In principle, then, the operation in Tyre was designed to be a rapid penetration approach generally favored by IDF doctrine even in urban areas. However, this is misleading. Aware that timing was critical to the overall campaign and that the major road ran through an area very likely to be contested, a late change altered somewhat the "punch-through" aspects of the operation. The spearhead elements, rather than attempting to blast their way through the city to maintain momentum, in fact decided to bypass the city, while the bulk of the

column did the "punching-through." (Ironically, the lead unit of the spearhead did end up at the key junction the bypass was designed to avoid.)

DEFENDER

For the PLO, Tyre represented an important opportunity to block, at least temporarily, any rapid movement of Israeli forces northward along the coastal road. While, unlike Sidon, the city of Tyre did not actually sit astride the main coastal road, it lay opposite the refugee camp of al-Bass. Taken together, this urban agglomeration did cross the road. Moreover, important rivers to the north of the city offered additional opportunities for slowing movement with delaying actions (destroying bridges, setting ambushes). Since Israeli forces would have to move between the city and the camps, a well-organized defense in Tyre could substantially delay the progress of the IDF, giving vital time to PLO southern regional headquarters in Sidon and to PLO general headquarters in Beirut to organize and deploy their own forces.

Ineffectual leadership of PLO field forces and IDF strategic surprise resulted in failure to carry out any of these actions timely or effectively. It is not clear even to what extent centralized planning had allocated responsibilities or resources in advance to accomplish the missions. These errors are all less understandable in view of the evidence that the IDF had sought for months to initiate offensive operations in Lebanon, and the readily available information that only international pressure had prevented such operations. It is true that many Palestinians believed the IDF would avoid the cities and restrict military operations to the type conducted in 1978, but, leaving aside the futility of the 1978 operations, a prudent planner would certainly have to consider alternative possibilities. Under the circumstances, it is misleading to suggest that the PLO operated under any coherent "concept of operations" in Tyre.

The PLO placed many of its military resources inside the built-up area. In part, this clearly represented an attempt to exploit IDF aversion to attacking the civilian Lebanese. (Moreover, the PLO may have placed weapons near structures in large part for tactical reasons having little to do with the nature of the structure. Many positions near hospitals, churches, and other structures commanded key intersections, and buildings that were especially solid offered better protection, whatever their sociological function. In some areas, any position the defender could choose would be near some key civilian building; neither side was prepared to declare any area off-limits and to surrender it to the other's control in advance of the battle.) At the same time, it can also be speculated that some of these preparations were less for battle than for deterrence. PLO leaders were known to believe that the IDF was eager to avoid fighting in cities, with the attrition rates attendant on such operations, and the appearance of the PLO already well-prepared for just such a battle might well deter an Israeli attack altogether.

There was no known "concept of operations" for the local or home guards in the camps. Yet, these are the forces that in the long-term proved to be most troublesome for the IDF. Their intimate knowledge of the camps and high motivation served the PLO far better than any abstract plans developed in Beirut could have. Perceiving that their backs were to the wall and determined to protect their families and sense of honor, the home guards offered the stiffest resistance encountered by the IDF.

IV

TACTICAL PLAN

ATTACKER

For many years the essence of the IDF as a fighting force has been surprise and movement. Recognizing the limitations imposed by the topography of Lebanon, the IDF was constrained to follow the available roads north to Beirut and eastward toward the Syrian front in the Beqa'a Valley. However, the conviction of IDF officers is that rapid offensive movement and surprise are the key elements of victory and low casualty rates for the attacker. Consequently, planners tried to address the problem of creating surprise and rapid offensive movement in a terrain area that has never favored either.

While planners never did identify a clear means of creating the conditions they sought in a large urban agglomeration such as Beirut, they were able to fashion a strategy for Tyre (and Sidon). The key in this case was not to merely bludgeon defending forces in the city with overwhelming force from the direction from which they must expect it would come, but, rather to mold a more favorable tactical situation at the outset. Thus, the concept was to cut Tyre off before the attack. On the one hand, this would serve the purpose of preventing the escape of PLO fighters as had happened in 1978. On the other hand, it would also create a sense of isolation and hopelessness that might precipitate an earlier surrender at lower cost for the attackers. It was also felt that reaction to a multifront attack was beyond the command and control capabilities of the PLO command in Sidon. Similarly, the ability of the local PLO personnel to manage a full-scale conflict was judged seriously defective.

In any case, following a preparation by artillery and air strikes, the spearhead force initially intended to punch through the city at a weak point, not interrupting forward movement in order to close its columns or consolidate. The spearhead would continue the rapid advance on Beirut and follow-on forces would mop up pockets of resistance. The principal tactical problem confronted by this spearhead unit (Col. Eli Geva's 211th Armored Brigade) was that the primary road passed through a major intersection at the outskirts of Tyre and on the edge of the large al-Bass refugee camp. It was Geva's expectation that the Palestinians might be able to create enough problems at this junction to delay the advance of his forces to the necessary early rendezvous in Sidon. Consequently, a last-minute change of plan provided that the lead unit would skirt the city and the camps by moving off the road and toward the east, bypassing the key intersection and the camps, but still effectively cutting them off.

Meanwhile, the other smaller battle groups would move into the area from the north and east, segmenting the area, cutting PLO lines of communication (LOCs) disrupting PLO command and control, and dividing the defenders from each other. Then, after the defenders had lost the freedom to maneuver or reorganize, follow-on forces would move in to eliminate the camps and other areas of resistance (such as PLO headquarters in the city).

DEFENDER

PLO deployment reflected dependence on the built-up areas, on the one hand, and sensitivity to friction between Palestinians and village and city residents, on the other. Thus, some forces were deployed, often for noncombat purposes, within the city. Villages of the South did not generally have a PLO presence, since such a presence among the Shi'a or Christian villages would have created seriously adverse relations with the Lebanese. In the countryside, the PLO deployed platoon size or smaller forces in small but fortified positions. These small positions were frequently on high ground. Less permanent positions in the citrus groves, ravines, and other areas affording protection were also used.

From what is known about PLO tactical plans, they called for avoiding a pitched battle in the coastal plain of the South outside the cities. Instead, rural engagements were to be more of a harassing nature--ambushes and the like. In the case of a large IDF attack (as opposed to the frequent Israeli cross-border raids), the main PLA units had in the past retreated and presumably were still expected to do so, given their inferiority in personnel, firepower, and mobility. Faced with a major assault, they would withdraw, primarily northward, to regroup with other PLO forces, or would fall back on the city where they might be able to exact significant casualties in city combat should the IDF decide to enter the urban battlefield, a battlefield it had intentionally avoided in the past.³

³ Despite the development of something like conventional force structure for PLA units, it is unlikely that serious tactical plans had been developed for battle in the southern countryside, an area in which the PLO was only scarcely more at home than the IDF. Such confrontations could only prove disastrous for the PLA, and would serve as an invitation for the IDF to attack in order to destroy PLA forces. Moreover, while it is easy to understand the Israeli concern about the growing force structure levels of the PLA, manning problems had confronted them continuously, and they continued as fictional in 1982 as they had been earlier. Evidence is strong that these formations had much more to do with internal Palestinian politics than they did with the conflict with Israel.

Within the city, for reasons already indicated, Palestinians believed the IDF operated under severe handicaps--concern for their own (i.e., IDF) losses, limited manpower, an inappropriate force structure (i.e., armor-heavy) for seizing and controlling a city, IDF concern to avoid unnecessary civilian casualties, and Israeli sensitivity to bad publicity. (Any city combat will yield a certain number of "atrocities" stories and pictures.) The possibilities for exacting a high cost for any Israeli entry into Tyre were then thought to be good, though the Palestinians were well aware that they could not prevent a quick and complete Israeli military victory in Tyre if Israel was prepared to allocate sufficient resources for it.

The refugee camps were organized into neighborhoods and sub-neighborhoods. The camps had all come under military pressure before, albeit of a different type than they were to experience in 1982. Aerial bombardment was not new to them, and many of the home guards, though they were irregulars, had experienced some combat and certainly had been exposed to artillery or air bombardment in the past. Neighborhoods of the camps were essentially self-sufficient for short-term food and related support needs, and could function independently of any centralized direction. Neighborhoods had assigned overall tasks in the camp defense, but cooperation and coordination among neighborhoods were not overemphasized, since it was widely assumed that in the event of an Israeli ground attack, parts of the camps would certainly be quickly overrun.

Thus, there was not a great deal of communication between the camps and the city, between the camps and the surrounding countryside (including PLO units stationed there), among the camps, or among camp neighborhoods. Actions were to be independent and autonomous.

V

OPERATIONS

COURSE OF COMBAT

The Israeli attack into Lebanon commenced at 1100 hours on Sunday, June 6, 1982. Preceded by artillery and aerial bombardment, the 211th moved quickly north from its positions in the enclave ("Free Lebanon") controlled by Haddad and through UNIFIL lines without incident. However, the 211th already encountered difficulties in the 25 km between the Israeli border and Tyre.

The quantity of military traffic on the small and ill-maintained road caused a backup with attendant delays.

The column was ambushed on several occasions by PLO forces hiding in the extensive citrus groves along the road.

The Israeli Air Force (IAF) mistakenly hit the advancing column as it passed through an intersection on the road northward.

All of these problems did result in a few tactical changes and in some slowing of the forward movement of the column below the pace originally intended.

As the column moved northward, it did not stick to the road but moved off-road where possible. However, this path, and the dense citrus groves near the edge of the road impeded visual contact. It became difficult to maintain the integrity of the column. The decision to bypass a main road junction had necessitated this off-road movement. (This was the junction of the east-west road leading into Tyre and the main north-south coast road. The junction itself lay virtually inside the al-Bass refugee camp--thus the decision to bypass.) One battalion of the column, losing sight of other elements, nevertheless went the wrong way, ending up at the junction where, predictably, PLO fighters ambushed it.

The lost battalion was isolated from the remainder of the column, which for the most part continued its rapid movement northward. Extrication of the battalion, once ambushed proved difficult. Ultimately, the command turned to the IAF to attack PLO positions around the besieged battalion. A relatively intense bombardment (though limited in time and space) followed, and the battalion was eventually able to leave the area.

The rapid move northward by the bulk of the lead column, somewhat slowed but not stopped by these events, did succeed in cutting off the city and camps from PLO units deployed farther east. Moreover, the other IDF battle groups had arrived at their attack positions, and moved

into the fray. Thus, forces were moving rapidly toward Tyre from the east and north, as well as from the south. As evening fell, the spearhead unit (that had bypassed Tyre) reached the Litani, a major river just north of Tyre, and other elements were encircling the refugee camps. No attempt was made to enter the camps or city at night. A regional command headquarters was set up inside the buildings of the electric company. (This headquarters was moved on June 10 northward to Sidon.)

Columns featured the coordinated movement of tanks and M113 APCs. Typically, upon enemy contact the infantry would dismount to attack the source of fire. This mode of operation was discontinued in Beirut. In the latter instance, APCs were considered to be too vulnerable in the urban environment. The infantry remained dismounted and the APCs kept well behind the leading elements and were used to carry supplies and evacuate wounded.

On the morning of the second day of the war (June 7th), infantry-armor teams attacked several of the camps, and naval units fired at known PLO positions in Tyre. By this point, the camps were generally cut off from each other and from the city. However, they resisted penetration with a strong show of fire from well-prepared positions. This was particularly true of al-Bass, Burj ash-Shemali, and Rashidiyya, the three largest camps. The refugee population of the camps was not permitted to leave by the defenders, apparently for two reasons--the fear that the Israelis would massacre the civilians and potential for noncombatants to serve as a shield, deterring the IDF from an all-out assault.

For its part, the IDF was not prepared in any case to undertake any kind of frontal assault on these densely populated, fortified, and confined areas. Instead, the degree of resistance was to dictate the approach. The determination of PLO resistance persuaded the IDF to use "salami tactics," slicing off one area at a time and neutralizing it, thereby slowly closing the ring around the PLO positions.

A major problem confronting the IDF was that within Tyre, the number of noncombatants vastly outnumbered the number of combatants. The challenge was to persuade the noncombatants to evacuate the city (and the camps) to allow military operations to proceed unhampered by civilians. However, this problem had been anticipated prior to the initiation of hostilities. Recent IDF experience in built-up areas had been limited to those not heavily populated by true noncombatants. But in Jerusalem and the other populated cities of the West Bank in 1976 the IDF had dealt to some extent with this problem. With a long planning period prior to initiating war in Lebanon, considerable thought had been devoted to the problem of separating combatants and noncombatants.

IDF leaders were convinced that psychological operations are key tools in these actions. Consequently, printed material to be distributed by aircraft and spoken material to be disseminated by loudspeakers, radios, and televisions were to accompany military actions that were clearly designed to communicate certain ideas to both the PLO fighters and supporters and other noncombatants.

Prior to the initial thrust along and near the coastal road, IDF artillery and IAF bombardment had struck hard outside the city. The battalion that strayed into the al-Bass crossroads had generated an air attack on that part of the built-up area, and smaller ambushes farther south (most of them actually beyond the built-up area) had led to other air strikes there. However, relatively little Israeli air power had been used, nor was intended for use, in Tyre. When troops were in position to begin their move into the city and camps, Israeli aircraft dropped leaflets warning of the impending attack and advising noncombatants to move to the beaches. Similar warnings were issued by Sa'ad Haddad, by Israeli radio (in Arabic), and by loudspeaker teams attached for this purpose to the ground forces.

Some noncombatants did depart. Many were not permitted to do so. Many willingly stayed for a variety of reasons. IDF combat operations directed against the camps in particular were therefore interrupted a number of times by de facto cease-fires to enable additional noncombatants to escape. Clearly, PLO fighters mingled with those who did depart, but this was not a source of concern to the IDF, which probably sought to encourage such behavior, since the fighters would have to leave unarmed and could be dealt with later as individuals. Still, resistance in the camps was dealt with through heavy use of air and artillery firepower much more than in the city of Tyre. While there was some effort to be discriminating--ground forces requesting air strikes had to specify targets quite distinctly--the ground forces found ways around these limitations. Numerous requests for individual strikes at diverse points within relatively small areas had the net effect of more extensive bombardment.

The larger camps in the Tyre area all took 2 or more days of attack to be neutralized: in the case of Rashidiyya, fighting continued for 4 days, and in Burj ash-Shemail it was only slightly less. In almost every camp, defenders fought courageously.

ROLE OF NONCOMBATANTS

This subject has been dealt with in this report in the previous section. Noncombatants formed a protective shield for the PLO, given IDF guidelines to protect noncombatants. It is interesting to note however the psychological effect of air power. While ground forces personnel were often careful to observe restrictions in firing into area in which noncombatants might be hurt, they were eager to call upon air power when they encountered stiff resistance. (The IAF is reported to have been much more reticent to be used than the ground forces were to use them.) In this way, responsibility for damage to civilian structures and deaths to civilians could be displaced to that more anonymous platform, the airplane.

Treatment of Lebanese and even Palestinian noncombatants seems to have been much neater in Israeli planning than in the operation. There is evidence to suggest that Israelis were legitimately surprised that

their warnings and directions went unheeded by so many. There is certainly ample evidence to suggest as well that the operation in built-up areas was much more complex and involved many more variables that affected noncombatants than senior leadership understood or could deal with adequately. Staff personnel with MOUT experience were much more realistic in their assessments than the key figures in managing the strategy and policies of the invasion. (Notable among the latter were General Eytan and Minister Sharon).

Typical of the inadequate planning was the follow-on to combat operations--civil affairs. Since Minister Sharon felt strongly that he wished to establish the best possible image in southern Lebanon among the Lebanese (it is unlikely that he ever cared very much about Israel's positive image among the Palestinians), the lack of any planning for post-attack support to the Lebanese noncombatants is remarkable. While Israelis with administrative experience in occupied Arab areas were quickly appointed to civil affairs posts in occupied southern Lebanon, the necessary logistical support was almost totally lacking. This is not an unimportant consideration. Instructing tens of thousands of civilians to proceed to a beach may be an adequate way to separate them from combatants, but it does not answer the most basic questions of how they will be provided with such necessities as food, water, or sanitation.

CIVILIAN RESOURCES

The pumping station was destroyed in the attack on the city, so water had to be trucked in. Many of the noncombatants who remained on the beaches were there for 2 days or more before they received any water.

TOPOGRAPHY

The area of Tyre is part of the Lebanese coastal plain, which stretches to the Lebanon mountain chain a few kilometers inland. The border territory is very hilly inland, but the coastal plain is generally flatter. The coastal road, which is the main north-south road running to Beirut and beyond, is the only major artery running the length of Lebanon. It is not well-maintained in the vicinity of Tyre, and does not become a multilane highway until well north of the city. Smaller roads coming from the mountains to the east run perpendicular to the coastal road. Citrus groves stretch from the edge of the coastal road to the mountains.

The area of southern Lebanon is also divided by a number of waterways running more or less east-west, i.e., perpendicular to the coastline. Therefore, the bridges spanning these waterways are vital to the commerce and transport of the South, as well as to any military movements. In the Tyre area, the major river is the Litani, just north of the city. The Quesmiyya bridge over that river was a major IDF objective.

In the defense of the camps, the Palestinians used the buildings and nearby orchards for firing positions. For its part, the IDF exploited the hills around Tyre prior to entering the camps.

USE OF BUILDINGS

Buildings of all types, including mosques and schools were used as firing positions by the defenders. The determining factors of employment had less to do with function than with location, design, and solidity. Buildings in the camps are very dense, though in some camps they are much less "permanent" types of construction than in others. Buildings were used for firing positions, observation posts, and shields, if they housed or were likely to be perceived to house civilians. As the attacker, the IDF retained as much mobility as possible, and therefore did not use buildings to a great extent.

DEPLOYMENT OF PERSONNEL IN BUILDINGS

While by Lebanese standards Tyre was big, it is not really a large city, and did not have many tall buildings. The refugee camps generally consisted of one- or two-story concrete block buildings. Thus, while rooftops and second-story positions were certainly employed widely, the lack of tall buildings meant deployment pattern of people within buildings was not a major factor. Individuals often operated singly, and firing positions were usually at street level or slightly above (i.e., at second-story or rooftop level).

FIRING FROM ENCLOSURES

Firing from enclosures was probably the most common form of fighting in the camps. Palestinian irregulars and home guards, as well as many individuals acting on their own, fired from rooftops, windows, and in some cases previously prepared firing positions and loopholes.

MOVEMENT BETWEEN BUILDINGS

Palestinians appeared to have no set doctrine as to movement between structures. Israeli practice has been detailed elsewhere (McLaurin & Jureidini, 1986). Moreover, in a number of camps, tunnels dug prior to the operation served the combatants well, enabling them to move forces around literally under the noses of the IDF. In these cases, Palestinians frequently appeared in areas behind the lines already cleared by Israeli troops.

SUBTERRANEAN AND SUPERTERRANEAN OPERATIONS

It is difficult to distinguish between shelters constructed due to the frequent Israeli air raids on the refugee camps in the period preceding the war and fortified bunkers in the more technical sense. Nevertheless, fortified underground positions in buildings of diverse types constituted a principal type of defensive position for resisting the IDF. The IDF found 74 such "bunkers" in Rashidiyya, 80 in Burj ash-Shemali, and 213 (many of which were used for arms storage rather than fighting positions) in al-Bass.

USE OF STREET PATTERNS

In most of the camps, the roads are narrow and uneven, taking unpredictable turns, and suddenly becoming narrower. They are in a poor state of repair, and are generally intersected by small alleyways or side streets that run irregularly. This kind of terrain is especially dangerous for armor, because the narrow streets can virtually immobilize a tank that takes a wrong turn, converting the mobility, firepower, and protection that a tank should afford into immobility, impotence, and vulnerability. Thus, infantry tended to take the lead in much of the fighting in the camps, calling on armor and SP artillery for direct-fire support against specific point targets. Care was taken to provide adequate infantry protection to these weapons when they were called forward.

RUBBLE AND TRAFFICABILITY OF STREETS

Parts of Tyre were severely damaged by the 1982 fighting, and while the absolute amount of destruction was certainly not as great as in the two larger cities, Sidon and Beirut, Tyre probably suffered greater damage than either when relative size is considered. There was relatively little fighting in the streets of the city, and most of it was contained in relatively small areas. But Tyre is a small city, and construction was less solid than in Sidon. Moreover, it is difficult to be certain about the levels of destruction, because the city had been so heavily damaged in earlier attacks by the IAF over the previous years.

The camps, by contrast, and particularly Rashidiyya, were heavily damaged and with rubble quite noticeable. However, the condition of the streets in the camps was not good in the first place and the density of construction there was certainly atypical even of third-world countries. Still, most thoroughfares were trafficable even in the camps and IDF personnel consistently state that rubble did not seriously impede operations. (The noticeable rubble after the battle may reflect the philosophy of some Israeli military leaders to demolish the camps and prevent concentrated Palestinian habitation anywhere south of Beirut.)

BARRICADES

Barriers and barricades were hurriedly constructed and largely ineffectual. They were composed of vehicles, stones, and building materials, but posed no real obstacle to the IDF in view of the active participation of combat engineers in all phases of the attack. A more carefully prepared defense could have slowed the IDF considerably.

MINES

The PLO use of mines was very poor in Tyre. In part, this represents the breakdown of command, as communications with higher echelons of the PLO were cut at an early stage. But in Tyre, unlike the Sidon case, the PLO commander for the area at least remained in charge for the first 24 hours of the battle. Therefore, the poor use of mines more likely represents the surprise element of the Israeli attack, a breakdown in command in a different sense--lack of readiness, absence of discipline, poor contingency planning, and faulty intelligence.

Despite the availability, indeed abundance, of a wide variety of mines in PLO stores, mines were not planted carefully along likely and alternate routes of approach. When used, they were strewn above ground, sometimes covered slightly by leaves or refuse. Mine removal posed no problem for the IDF, and mines can be said not to have affected the rates of advance. In fact, the IDF anticipated much greater and more professional use of mines and had reflected this consideration in the timetable of the attack.

SNIPERS

Individual riflemen acting as snipers constituted the main line of PLO defense in Tyre and the camps. (Few, if any, were true snipers in the sense of being trained specialists equipped with long-range rifles and telescopic sights.) Typically, they fired at relatively long-range and then changed positions. However, the IDF was more successful in Tyre in separating combatants and noncombatants, which severely limited the staying power of snipers who, once exposed, could be much more easily neutralized without their civilian shields. IDF defenses against snipers consisted largely of rapid movement, effective use of cover, and aggressive counteraction by designated teams. Nevertheless, the same experience that was to recur all the way up the coast confronted the IDF ground forces in trying to control the camps. Snipers were well hidden, intimately familiar with the terrain, highly motivated and willing to die, and able to exploit IDF reluctance to fire into (possibly inhabited) structures unless first fired upon.

ANTITANK

While there were no formal antitank (AT) teams integrated into the local PLO force structure, the proliferation of RPG-7s had the effect of creating ad hoc AT teams. From the initial skirmishes outside Tyre to the ambush at the al-Bass crossroads to the fighting in the camps, the RPG certainly made itself felt. A number of tanks were knocked out by RPGs both in and outside the city. RPGs proved more devastating yet to APCs (armored personnel carriers). Later in the war the IDF seems to have been more successful at keeping the APCs out of combat situations precisely because of their great vulnerability to the ubiquitous RPG. The need for rapid movement, however, and perhaps an overly sanguine expectation about the level and intensity of fighting in Tyre led to a number of very visible and effective RPG kills of APCs.

SMOKE AND FLAME

There have been reports that Israeli helicopters dropped smoke bombs or canisters. Our IDF sources and a number of Lebanese have recorded conflicting reports on whether smoke was used. It is possible that smoke from combat was dense enough that some observers believed they were seeing intentional use of smoke when in fact this was merely the smoke incidental to fires and dust from off-road troop movement. Some IDF sources indicate smoke was used to cover withdrawals.

Flame was not used by either the IDF or the PLO in Tyre.

NIGHT FIGHTING

There was virtually no night fighting in Tyre. IDF commanders feared their vulnerability to attacks in unfamiliar territory at night and withdrew from areas not under their complete control prior to dusk. Since they controlled the pattern and pace of combat, the opportunities for night fighting were therefore virtually nil.

COMMAND AND CONTROL: TACTICAL ORGANIZATION

Overall IDF force structure is armor-heavy. Israel cannot afford a protected war, and indeed expects short wars in which military objectives must be achieved before an externally imposed cease-fire. Armor provides the striking power and mobility needed to overcome Israel's more numerous opponents in the short war scenario. Additionally, Israel with its small population, is exceptionally sensitive to casualties and armor forces traditionally suffer fewer losses. The emphasis on armor extends to assigning armored infantry (mechanized infantry in U.S. parlance) to the armor branch. Armored infantry receives a lower standard of recruits than other IDF combat forces. In contrast, are the elite paratroops who are often used as

shock troops. Despite the armor bias, IDF tactical organization emphasizes the coordinated use of combined arms. Combined arms task forces are the normal combat formations. Combined arms training is routinely conducted down to the lowest organizational levels. Infantry forces formed the core of combat teams in urban combat and tanks and even SP artillery were assigned to infantry control down to company level.

Command organization and tactical communications in the IDF follow the conventional lines of other western armies. This system readily supports the coordination of combined arms task forces. Modern communications equipment is used, much of it of American manufacture. The distinguishing feature of IDF command and control is the autonomy allowed to leaders down to the most junior levels. Leaders are expected to use independent initiative to seize opportunities and make decisions to achieve the overall intent of the senior commander. Decisions are made without constant referral to higher authority or strict adherence to a fixed plan. Personal leadership from the front is also emphasized, which accounts for a traditionally high proportion of officer casualties. To succeed in this style of command, the IDF places a premium on leadership and initiative above other qualities in the selection and training of officers.

PLO command and control issues in the Tyre combat were somewhat different from those faced in Beirut and Sidon. The refugee camps in Tyre were well-organized for defense, as the camps were elsewhere. However, Tyre was more distant from senior PLO headquarters. There was little effort to tie camp operations or priorities in with those of the city or with the activities of PLO units in the countryside. Consequently, the camps were able to function with substantial autonomy. (This was true also of the camps around Beirut and Sidon.) The defense of the camps was closely coordinated by the PLO senior leadership itself, but it was the irregular militias within the camps, men desperately fighting to save their homes and the honor of their families, who presented the IDF with its greatest challenge.

Moreover, Tyre was alone in the entire Lebanese South in having a senior PLO commander who did not flee at the very outset of the fighting. 'Azmi Zrayer the Tyre commander based in the city, remained in active control of his forces for the brief period that those forces remained coherent, perhaps 24 hours into the fighting. Considering that the IDF was halfway to Sidon in half that time, it was no mean accomplishment. While Zrayer's reputation was hardly savory, he endeavored to retain command integrity and order into the second day of combat.

As in the Sidon battle, the IDF approach proved extremely effective, splitting PLO units from each other so that an immediate effect of the invasion was the breakdown of structural integrity, command, and control of all PLO units (McLaurin, 1986). (Whether these units could have operated in the absence of senior PLO commanders who fled is a moot question.) Moreover this approach impeded maintenance of PLO communications with Beirut.

Nevertheless, it is clear that PLO field forces (which in the South means essentially the PLA Kastel Brigade) did not accomplish the most important mission--delaying the IDF advance through the South toward Beirut. They could have contributed much more to this mission through individual sabotage or demolition operations, such as of the bridges across the regional rivers, than through conventional combat. The only reasonable combat impediment to IDF progress was in the cities and refugee camps of the South. The Kastel Brigade was ill-equipped to do battle in these circumstances, especially since its personnel were deployed in the countryside and its mobility was not sufficient to redeploy into the cities in advance of the rapid Israeli movement. Thus, the burden of slowing the IDF fell on the shoulders of the irregular units in the camps and the small PLO units in the cities. The former, in particular, did in fact slow the movement of the IDF significantly but more through bravery than training, preparation, or firepower.

More effective coordination and more realistic planning by the PLO could certainly have generated an even greater level of resistance, especially in the cities, but is unlikely to have had materially greater impact on the overall conduct or outcome of the war. For example, Israeli commentators have rightly pointed to the inexplicable Palestinian failure to destroy the bridges over the southern rivers. Certainly it is true that the explosives, manpower, expertise, and time existed to destroy them. Certainly, too, their demolition would have consumed extra time for the IDF. However, IDF bridging is relatively advanced, and preparations had been made to construct bridges over these rivers should it have been necessary to do so. While every increment of time is of a certain undeniable value, again it is unlikely that such failures made as much difference as the critics sometimes suggest. (It seems that some of these commentators are more interested in deriding the PLO than in analyzing the war.)

INTELLIGENCE

Israeli intelligence on PLO dispositions in Tyre was relatively good, although not as good in some respects as it was in other cities. Nevertheless, excellent information existed about fortified positions, and overall, the data on weapons and infrastructure were shown to be accurate. Subsequent Israeli comments that major weapons caches found in Lebanon vastly exceeded Israeli estimates are misleading, and intentionally so. In fact, the intelligence on major weapons systems was quite accurate, as it should have been given the nature of the sources. What was underestimated, in Tyre as elsewhere, was the stores of small weapons and ammunition of which enormous quantities were found. However, no conceivable use existed for these large amounts of small arms and ammunition; the PLO could never have used it all either in Lebanon or against Israel. Moreover, many of the major weapons systems, especially in the South (though not in Tyre in which only a few major systems were found), were poorly used. For example, tanks were often used as artillery; many were completely immobile, with engines that

would not operate and the like. Counting such a weapon as a tank may be technically accurate, but it is certainly overly "generous" in attributing military capability to the PLO.

PSYCHOLOGICAL OPERATIONS (PSYOP)⁴

We have already noted that the very approach to the attack on Tyre reflected a realization of the importance of psychological operations in the conduct of military operations in urban areas. Because this was the IDF's first experience in the Palestinian refugee camps, the stiffness of the resistance in al-Bass and especially Rashidiyya was somewhat unexpected. (It was to be repeated in the camps around Sidon, particularly Ayn el-Hilwe.) Consequently, in an attempt to frighten the defenders into submission, the IDF informed PLO fighters by loudspeaker that continued fighting would generate IAF attacks against the camps and Tyre. When resistance continued unabated, IAF jets came into play, bombing specified targets. However, these psychological ploys had little if any effect on a Palestinian population as afraid of the consequences of surrender as it was determined to show its courage and defend its honor.

It is interesting to note that in the attempt to convince residents of Tyre to remove themselves from the combat zone and get to the beach, the IDF recognized the importance of employing religious leaders. This was the most effective and credible means of communication with the residents. While there were cases of forcible detention of civilians in Tyre, the movement of people to the beach did work relatively effectively there. (Palestinians, many of whom had great reservations about their treatment at the hands of the IDF, were understandably more reluctant than Lebanese to follow the instructions. Since so much of the population had become Palestinian following the years of Shi'a emigration from Tyre, this fear did affect the numbers adversely.)

Ultimately, it is believed that in excess of 30,000 people arrived at Casino beach southwest of Tyre. The attack on the city's remaining fortified strongpoints was delayed because of the massive movement toward the beach, and subsequent interruptions followed for the same reason.

There can be no doubt that following the conflict the IDF leadership intended to fashion a new and productive relationship with the Shi'as of the South of Lebanon. Undoubtedly, Tyre, given its importance as the largest Shi'a city, would have figured prominently in that new relationship. However, while Lebanese Shi'as welcomed the Israeli invasion privately as a means to remove the Palestinians from the area, the welcome eroded rather quickly. Many Israeli army

⁴ More extensive treatment of the subject is available in Psychological Operations in Urban Warfare: Lessons from the 1982 Middle East War (Katz & McLaurin, 1987).

personnel were insensitive, and their security forces abducted large numbers of locals as suspicious persons. Israeli behavior was often arrogant and high-handed and Israeli private interests exploited the military presence. Moreover, Israel proved unwilling to support the Shi'a goal of a reemergent Lebanese national government and armed forces and the creation of alternative centers of power. These factors, coupled with continued occupation and oppressive visibility, did little to win Shi'a support. Unquestionably, the inefficacy of Israeli civil affairs and the hostility of many IDF personnel toward any assistance to the locals played a role in the growing enmity felt by many southerners toward Israel.

CIVIL AFFAIRS

Closely related to psychological operations is civil affairs. (Recent consideration of the problems of MOUT by the Defense Science Board reassert the importance of civil affairs as critical determinants of the long-term outcome of city battles.) While armed combat may win the engagement, the engagement serves no purpose if subsequent developments reverse the effective military victory in political or other meaningful terms. Civil affairs, like psychological operations, recognizes the key fact that cities are centers of habitation. The interaction of armed forces with the local inhabitants in limited war situations is likely to be the decisive factor in influencing the direction those populations choose to pursue.

We have already indicated the senior IDF command's awareness of this salient point. But we have also indicated at various points in this report some of the problems faced by Israel in operationalizing it. Civil affairs is not a prominent activity of the IDF, and only a very small number of Israelis are involved in it. The dislocation and breakdowns in supply and communications occasioned by the war far exceeded the resources these few individuals could bring to bear. Moreover, civil affairs personnel reported to more senior officers whose principal responsibilities had nothing to do with PSYOP or civil affairs. In some cases they had little concern about local populations and were unable to see the importance of the welfare of those populations in terms of Israeli interests. Without the necessary support from local commanders, a civil affairs organizational structure, no matter how well-developed, is bound to be ineffectual.

Civil affairs cannot be created as a mission and organization and expected to operate ad hoc. The administration and management of a city is an extraordinarily complex process in the best of times, and is far more complicated in the circumstances of multifaceted crises created by war. Ideally, "indirect rule," that is, returning the city to the governance of those who ran it before but under different auspices, is the easiest approach. This may be the approach that the IDF had intended, if indeed any systematic thought was devoted to the subject. However, the effects of war will often alter these plans in unforeseen ways. Administration of Tyre had become so deeply connected to the PLO

that the wholesale arrest and detention of all suspected PLO members and the dismantling of the PLO infrastructure affected the degree to which the city could function.

Even the immediate combat operations showed little realistic assessment about populations management. Tens of thousands of Lebanese and Palestinians were directed to the beaches by the IDF. The subsequent inability of the IDF to provide water, food, clothing, shelter, and sanitation facilities produced predictable results. A large number began to try to return to their homes even as combat continued, considerably complicating Israel's movement of troops and delivery of ordnance on selected targets. When outside relief agencies (and even some Israeli efforts) tried to assist the Tyre population, the IDF, fearful that the PLO would benefit, interfered, creating very adverse PSYOP situations that were quickly and effectively exploited by the PLO.

With large numbers of people concentrated in an area with inadequate hygienic facilities, disease and vermin problems arose. Apparently, no plans had been made either for the disposal of civilian and other dead, and decaying corpses created the threat of additional disease problems.

AIR OPERATIONS

Air operations in Tyre were limited to the initial attack to soften up PLO fortified positions along the coastal road, to close air support during the attack on Tyre (most visible at the al-Bass crossroads where the battalion of the spearhead brigade was ambushed, but also throughout the battle for the city), and less discriminate bombing of the camps in which resistance was heavy. It has already been noted that a part of this last element was psychological in intent.

On the first day of the attack, an A-4 Skyhawk was shot down over Tyre. Two helicopters were also lost during the battle. F-16s were used to provide close-in ground support to the IDF units that were ambushed on the outskirts of Tyre.

NAVAL OPERATIONS

The Israeli Naval Force (INF) played a small role in the Tyre operation. The limited resources of the INF were largely committed to the landing near the larger city of Sidon. However, a small amphibious landing was made at the Litani River prior to the attack on Tyre. Some naval gunfire support was provided, particularly around the port area. Naval combat patrols also sought to prevent PLO escape or reinforcement.

VI

OUTCOME

The outcome of the Battle of Tyre was never in doubt so far as the control of the city at the cessation of hostilities was concerned. Predictably, the IDF won the battle, and at tolerable cost in terms of personnel and equipment.

It is true that Israel won the fight for the city, but the military outcome of any battle between the IDF and the PLO could only be an IDF victory. A greater question is certainly the indirect costs the IDF paid for the victory.

The PLO did not fight well or utilize its resources adequately. Indeed, the conventional level PLO forces proved themselves to be a farce rather than any kind of a military establishment. Faulty intelligence does not excuse but merely exacerbates the problems of poor command.

However, the Palestinian fighters in the camps fought with such determination and courage that they delayed the IDF move northward. This caused a deviation from the timetable of the IDF advance that was to have significant repercussions on the success of the later Beirut phase of the campaign. Israeli casualties were slight, and equipment losses negligible, but the casualties were still greater than hoped. The precedent of determined resistance in the Tyre camps was picked up not only in Sidon but in the Beirut camps too, causing still more considerable casualties.

Casualty and equipment losses for both sides for the Battle of Tyre are not available. It is known that the IDF lost approximately 20 killed and 100 wounded as a result of the fighting in the city and the camps. Other figures, which are almost always directly or indirectly from Israel, are totals for all the battles in the South. It is difficult to extract those for Tyre.

In terms of damage, most of the refugee camp of Rashidiyya was destroyed. About one-third of al-Bass was destroyed. These figures are misleading in two ways: first, much damage occurred prior to the Battle of Tyre; second, much occurred after it, as well. Following the cessation of hostilities in the camps, the IDF proceeded to raze a large number of structures in some of the camps (as it was to later do in Ayn el-Hilwe near Sidon and in the camps near Beirut). These actions reflected both the expectation that the camps would cease to exist in the same form as in the past and the determination that all buildings with "bunkers" or arms caches should be destroyed.

VII

FINDINGS AND CONCLUSIONS

WEAPONS

Armor and SP artillery showed themselves to be invaluable contributors to victory in built-up areas. While the infantry continues to bear the brunt of the responsibility, the use of AT weapons, armor, and SP artillery working closely with infantry are the best team for destruction of fortified strongpoints on urban terrain. The shock value of armor and SP artillery, which has often been considerable in city fighting, was reduced in Tyre. This is possibly because the residents of the city and camps were less intimidated, having been exposed to so much artillery and aerial bombardment in the past.

TRAINING

Combined arms appears to be as much a key to effectiveness on urban terrain as it is to effectiveness on other battlefields. The Israeli integration of interservice arms and service branches was a signal feature of the attack. Recognizing IDF weaknesses--mainly, the inability to accept casualties--the military aspects of the attack can only be considered a success. It is interesting that the areas that seemed to provide Israel with the greatest problem in converting its military successes to political successes had to do with those areas in which less training was in evidence--notably, civil affairs. Transference of the West Bank experience to Lebanon proved to be largely inappropriate. Most of the personnel who were placed in administrative positions had had some experience in military administration, but they were generally unequal to the task of meeting civilian needs in wartime.

TACTICS

Tactically, the IDF operations in and around Tyre proceeded relatively well. Indeed, it is questionable if most Western armies could have moved as successfully as did the IDF with its high degree of care for noncombatant Lebanese lives. The combined arms team, as the IDF uses it, cannot be readily applied to American forces at present (given the tactical flexibility of the IDF, and differences in the communications networks of the two) but some profit may be extracted from the applicability of IDF use of armor and artillery in cities. The evidence of city battles in recent years--years after the proliferation of small AT munitions--suggests that under specified conditions there is an important role for tanks and SP artillery to play with infantry inside certain types of cities. It would be foolish to generalize to

all cities or all combat environments in urban areas. However, the IDF experience in Beirut, Sidon, Tyre, and other experience shows that third-world cities and force structures create ideal situations for the effective employment of artillery and armor as long as they are adequately protected by infantry. Clearly, they can do things that infantry can accomplish only at much higher risk.

COMMAND, CONTROL, COMMUNICATIONS, AND INTELLIGENCE (C³I)

Once again, as in several other experiences, the IDF had little problems communicating in cities. This record is consistent with tests conducted on U.S. Army equipment by the U.S. Army Human Engineering Laboratory (USAHEL). The IDF has a complex of communications nets, all of which appear to have worked relatively well. Moreover, the Israeli communications system allows relatively senior commanders to enter into direct contact with local personnel, and this system also seems not to have been disrupted by urban operations. Indeed, the most marked communications failure of the Tyre battle was caused not by the urban environment, but by a defective communications system in an APC. The commander of the battalion that became lost was in the APC, and though he was told to change to a different vehicle, he does not seem to have done so prior to his error in direction and entry into the ambush at the al-Bass crossroads.

PSYCHOLOGICAL OPERATIONS AND CIVIL AFFAIRS

The use of PSYOP to induce civilians to move away from the combat area was generally more successful in Tyre than in Sidon. Messages were well-written in the proper language and were quite understandable to the local inhabitants. As elsewhere, Israeli writers found it impossible to identify with the PLO, and consequently took a very hostile tone both directly in messages to the PLO and indirectly in messages to noncombatants, even though Palestinian noncombatants certainly identified with and supported the PLO. This weakness is probably not responsible for the resistance to surrender in the camps, but it is clear that it did not help the situation at all. Generally, despite problems in getting the desired messages through to the desired audiences, most people were aware of the leaflets, or of radio appeals, or of loudspeaker messages, or of all three. The use of religious leaders was also wise and effective in the attempts to increase surrenders in the camps.

The attempt to demonstrate the force the IDF could bring to bear as a means to induce further surrenders was understandable but probably doomed from the outset. The Palestinian population of the camps was inured to bombing, and was quite familiar with what it could and could not accomplish, having been victimized by IAF attacks for a number of years prior to the war. This was probably not the ideal audience for such a demonstration.

If PSYOP showed substantial sophistication, civil affairs did not. Inadequate training, authority, personnel, resources, planning, coordination, and support all plagued the civil affairs effort from the beginning, and it was perhaps the signal failure of the IDF in Lebanon, contributing in no small measure to Israel's future problems in the South. The episode should have pointed up to the West the importance of civil affairs planning for urban environments in the Third World. This does not appear to have been the case, since most observers and analysts continue to neglect the lessons learned (and lost) in the IDF regarding civil affairs.

VIII

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Davar. (Hebrew, reviewed in translation). Israel, daily.
Ha'aretz. (Hebrew, reviewed in translation). Israel, daily.
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Journals - English and Foreign

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Military Electronics/Countermeasures. Washington, DC monthly.
Military Review. Ft. Leavenworth, monthly.
Strategic Survey. London, annual.

Other

Daily Report. U.S. Foreign Broadcast Information Service. Washington, DC, daily.
Joint Publications Research Service/Middle East North Africa. Joint Publications Research Service, Washington, DC, occasional.

Interviews and Discussions

General Amir Drori, general officer commanding Northern Command. (General Drori led the invasion, but was not physically present at the site of the Tyre operation.)

Two Israeli combat officers who fought in Tyre.

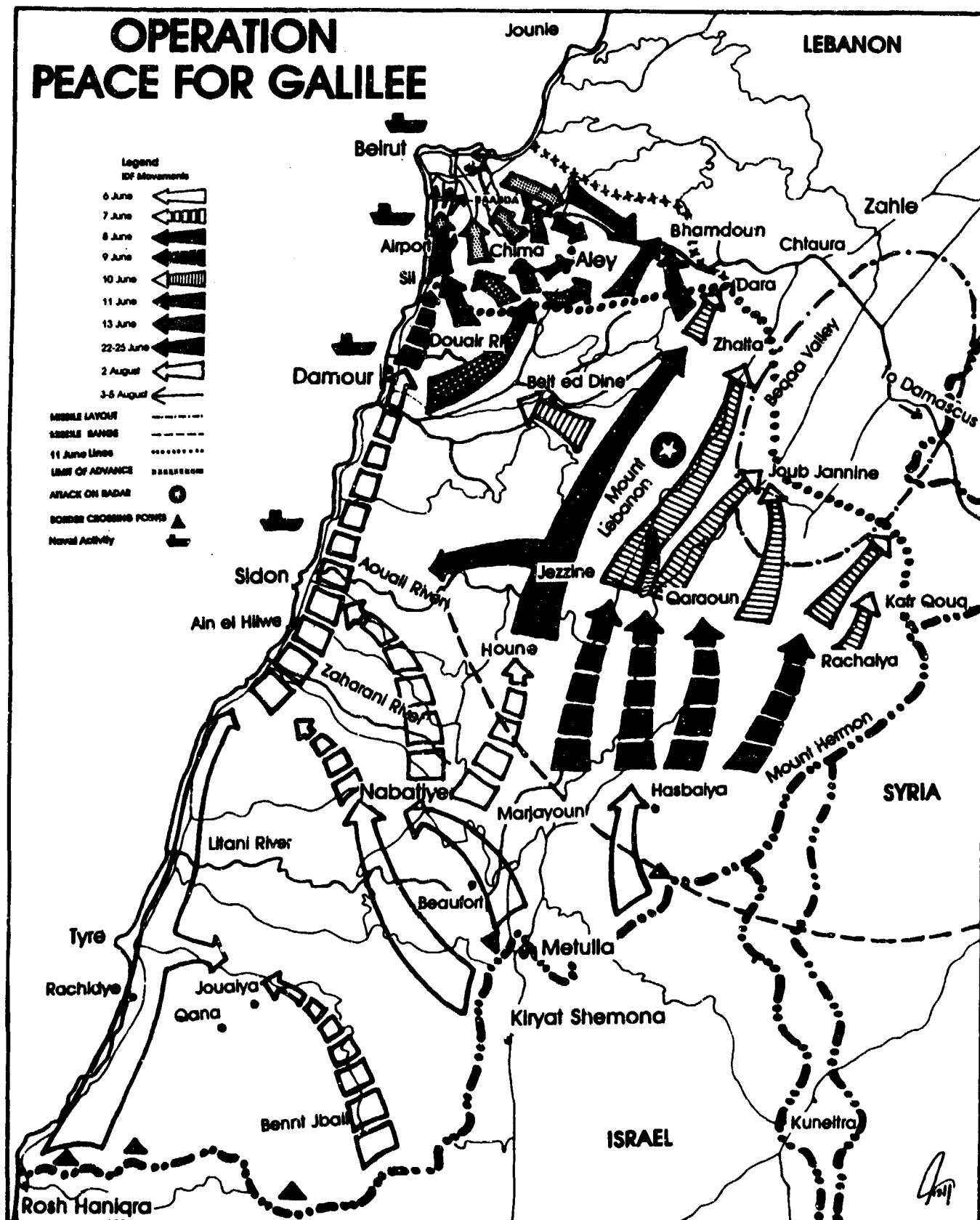
One Israeli officer present but in a noncombatant role in Tyre and whose responsibility was primarily civil affairs.

Three Israeli NCOs who fought in Tyre.

Two Americans, both with substantial military and analytical experience, who were present in Tyre soon after the combat and who interviewed a number of Israeli officials as well as Lebanese and Palestinians.

APPENDIX A

MAP



APPENDIX B
DATA COLLECTION INSTRUMENT AND INFORMATION

DATA COLLECTION INSTRUMENT AND INFORMATION

Planning and Tactics

1a. What appeared to be the tactical plan for the defense of PLO forces in Tyre? in the nearby camps? Where were defensive strongpoints located? How did these defenses relate to large, strong buildings? How did the defense relate to key bridges and intersections?

1b. What was the tactical plan for the attack on Tyre? How did the IDF approach the built-up area? enter it?

2. Had attention been given to the urban characteristics of the operation and how the IDF and the PLO might employ those characteristics?

3. Were equipment or tactical modifications made to armor, artillery, or other systems because of the urban environment?

Operations

4. To what extent was rubble a problem? How? How was it created?

5. How were buildings used offensively and defensively?

6. What tools, devices, or weapons were used? Provide estimates of quantities and manner of use.

7. Were barricades used? How? What was their composition?

8. Did personnel try to shoot through holes? How? With that? What was the effect on the target, the shooter, the aperture, and the room?

9. Was smoke used? How? Why? With what effect? How was it created?

10. Was flame used? How? Why? With what effect? How was it created?

11. Did noncombatants impede offensive or defensive operations? In what ways? To what extent?

12. Did noncombatants contribute to defensive operations? In what ways? To what extent?

13. Was the city prepared for defense? How? (Barricades? Tunnels? Wire communications? Demolitions? Etc.) Were the preparations effective? If not, why not?

14. To what extent and how were snipers used by attacker and defender? How effective were snipers? Was sniping integrated systematically into offensive or defensive operations? Were snipers used to delay an attack? Were snipers isolated?
15. Were roving and antiarmor teams based on a defensive position used? How? With what effect?
16. How were snipers attacked or defended against?
17. How were parallel, perpendicular, and other dependent street patterns used in offense and defense?
18. Were topographical features exploited by the offense or defense? How?
19. How trafficable were streets after artillery shelling? Armor shelling? Mortars? Air-delivered bombs?
20. How did personnel move within buildings? Between buildings?
21. What were typical distributions and deployments of personnel within contested buildings (i.e., how many per floor or per building)? Which floors were preferred for which types of operations?
22. How were buildings cleared by the IDF (what techniques were used)? How was their security maintained once cleared? Were they reoccupied?
23. What was the organization of tactical units? Were problems observed in command and control that derived from either the organization of the units or from the city environment? What were they?
24. What was the organization for medical operations?
25. What appeared to be the PLO organization for medical operations?
26. What expedients were adopted in transportation, drugs, communications, hygiene, treatment of dead and wounded, evacuation, etc.?
27. How and to what extent did disease degrade operations?
28. How were casualties identified?
29. Break down types of wounds (% serious, % facial, % thoracic, etc.)
30. Identify causes of wounds (% artillery, % accident, % hand-to-hand, etc.)
31. Secondary wound effects a problem? What precautions were taken to guard against secondary wounds?
32. Can you answer any of these questions (26-32) for PLO forces?

33. What equipment was used by the PLO for communications? How were communications assets distributed among PLO personnel?
34. How much power did friendly and hostile communications equipment have? Were problems encountered in communicating as a result of structures or other urban phenomena?
35. To what extent did each party intercept the other's communications? What precautions were taken for communications security?
36. What notable successes and failures arose in communications?
37. What differences arose between night and day operations?
38. What types of equipment seemed to be most effective in suppressing enemy fire from buildings or other structures? What was most effective in suppressing friendly fire?
39. What types of equipment seemed to be most effective in breaching walls?
40. What types of equipment seemed to be most effective in stopping assaults?
41. Comment on employment, effects, and effectiveness of AT, mortar, and small arms. On PLO armor, AAA, and artillery. (See chart on next page.) Comment.

<u>System</u>	<u>Employment</u>	<u>Effects</u>	<u>Effectiveness</u>
Pistol			
Rifle			
Machine gun			
Hand grenade			
RPG			
AT missile			
Recoilless rifle			
Mines			
Tanks			
APC			
Field artillery			
AAA			
Mortars			
Rocket systems			
Bombs			
ASM			
Rockets			
Naval guns			

42. Were energy or water source/supply for the defenders interrupted? Was the telephone interrupted? How? With what effects?

43. Was commercial telephone used by the IDF or PLO? How? How effectively?

44. What functions were performed by IDF helicopters and fixed-wing air support?

45. Were there sectors within the built-up area that were considered safe? What factors led to their status as safe?

46. Were there sectors of the built-up area free from AD? Comment.

47. Were there any combat innovations you saw or heard about in Tyre that were singularly appropriate to fighting in cities? What are they? What was their effect?

48. Considering urban aspects of the battle, what would you do differently if you were faced with the same situation once again? That is, what lessons did you draw from the battle about fighting in cities?